REMARKS

Claims 1-3, 10, and 14-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Haavisto (EP 1215894) in view of Hsu et al. (WO 01/01675). Claims 11 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over Haavisto (EP 1215894) in view of Hsu et al. (WO 01/01675) and Obrador (US 2004/0090548). The examiner is requested to reconsider these rejections.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Embodiments of applicants' claimed invention as defined by the amended independent claims relate to a mobile camera telephone and an associated method. The mobile camera telephone comprises a camera module for capturing an image and providing digital data in an RAW format.

Applicants have amended claim 1 to recite, *inter alia*, "an application processor including both a CPU for controlling the operation of a telephone and hardware arranged to perform camera image processing on the digital data in the RAW format received from the camera module". The application processor includes a programmable hardware accelerator and the programmable hardware accelerator is a SIMD processing accelerator optimized for camera image processing.

Applicants have amended claim 1 to positively recite that the application processor comprises **both** a CPU for controlling the

operation of the telephone **and** hardware arranged to perform camera image processing on the digital data. Support for this amendment can be found at page 4 lines 5 to 8 of the description and also Figs. 2 and 3. Furthermore this feature is implicit in the claims as the claims require that the application processor includes a programmable hardware accelerator and the programmable hardware accelerator is a SIMD processing accelerator optimized for camera image processing. Therefore it was already implicit in the claims that the application processer comprises **both** a CPU for controlling the operation of the telephone **and** hardware arranged to perform camera image processing.

In contrast, Haavisto merely relates to a method and a device for data transmission between an electronic device and a camera module integrated into it. Haavisto discloses a device comprising a camera module 301 that is connected through a first transmission bus 310 to a processor 314 and via the first transmission bus and a second transmission bus 311 to an image processing module 316.

Haavisto does not disclose an application processor including a CPU **and** hardware arranged to perform camera image processing. As pointed out by the examiner, Fig. 3 of Haavisto illustrates an image processing module 316 and a separate 314 processor. However there is no disclosure or suggestion that these could be integrated into a single application processor.

Haavisto therefore does not disclose features of claim 1 because Haavisto does not disclose that the mobile camera

telephone comprises an application processor including a CPU for controlling the operation of the telephone and hardware arranged to perform camera image processing on digital data received from a camera module. Having the CPU that controls the operation of the telephone and the image processing hardware in a single application processor is a new and non-obvious feature. This new and non-obvious feature results in a reduced number of components in a camera module and the use of the application processor for image processing means that a separate image processing module is not required. Embodiments of the invention therefore have size and cost advantages over Haavisto.

Applicants submit that there is no suggestion to combine the references as the examiner is attempting to do (at least not until after reading applicants' patent application). In particular, there is nothing within the teachings of Haavisto which would motivate a person skilled in the art to modify the disclosure so as to produce the claimed invention. To fall within embodiments of the invention as claimed the person skilled in the art would need to make a number of inventive steps. Firstly, Haavisto does not disclose the use of the processor 314 to control the operation of the telephone. Haavisto only discloses that the apparatus may be an electronic device such as a mobile communication terminal. It does not disclose or suggest using the same processor for controlling a telephone and controlling the processing of images.

Secondly, Haavisto does not disclose the inclusion of the processor 314 and image processing module 316 in an application processor.

There would be no reason why a person skilled in the art would modify the teachings of Haavisto to introduce the image processing module and the processor as a single entity because Haavisto teaches that it is important for the image processing to be carried out as quickly as possible. Combining the image processing module with the application processor would reduce the speed at which the image processing could be carried out and would also require substantial modification of the other components of the device such as the data bus. Therefore it would not be a straight forward or obvious modification to make.

Also, as conceded by the Examiner Haavisto does not disclose that an application processor includes a programmable hardware accelerator and the programmable hardware accelerators is a SIMD processing accelerator optimized for camera image processing.

The examiner maintains that Hsu discloses an SIMD which is a type of program accelerator and therefore the combination of Haavisto and Hsu is obvious and would result in producing something falling within the terms of the claims. However applicants maintain that it would not be obvious to combine the teachings of the two references because there would be no motivation to combine the teachings of the two documents. It would not be straightforward to combine the two different types of apparatus in the two different references as this

would require modification of both of the apparatus. Also there is no indication in the prior art of which features would be selected from each of the two documents if a person skilled in the art were to attempt to combine them. It is only with hindsight knowledge of the invention that a combination of Haavisto and Hsu would be considered.

Furthermore, Hsu fails to overcome the deficiencies of Haavisto. Therefore, even if a person skilled in the art were to combine the teaching of Haavisto with Hsu the result could not be the claimed invention.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. (see MPEP 2143.01, page 2100-98, column 1). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination (see MPEP 2143.01, page 2100-98, column 2). A statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is **not sufficient** to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. (see MPEP 2143.01, page 2100-99, column 1) Ex parte Levengood, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). >See also Al-

Site Corp. v. VSI Int'l Inc., 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999) (The level of skill in the art cannot be relied upon to provide the suggestion to combine references.)

In the present case, there is no teaching, suggestion, or motivation, found in either the references themselves or in the knowledge generally available to one of ordinary skill in the art, to provide an application processor comprising **both** a CPU for controlling the operation of the telephone **and** hardware arranged to perform camera image processing on the digital data in RAW format received from the camera module, as claimed in claim 1. The features of claim 1 are not disclosed or suggested in the art of record. Therefore, claim 1 is patentable and should be allowed.

Though dependent claims 2, 3, 10, and 11 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 1. However, to expedite prosecution at this time, no further comment will be made.

Applicants have amended claim 14 to recite, *inter alia*, "wherein the application processor includes both a CPU and a programmable hardware accelerator, wherein the CPU is configured to control the operation of the telephone...". Similar to the arguments above with respect to claim 1, Haavisto does not disclose an application processor including a CPU **and** a hardware accelerator **arranged** to perform camera image processing. As pointed out by the examiner, Fig. 3 of Haavisto illustrates an image processing module 316 and a separate 314 processor. However there is no disclosure or

suggestion that these could be integrated into a **single** application processor.

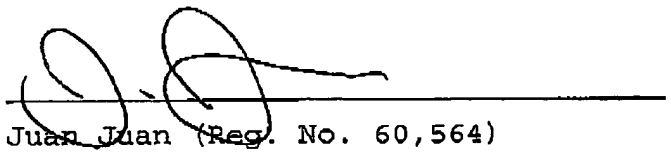
Additionally, applicants submit that there is no suggestion to combine the references as the examiner is attempting to do (at least not until after reading applicants' patent application). In the present case, there is no teaching, suggestion, or motivation, found in either the references themselves or in the knowledge generally available to one of ordinary skill in the art, to provide a method including sending digital data in an RAW format ... wherein the application processor includes both a CPU and a programmable hardware accelerator, wherein the CPU is configured to control the operation of the telephone and the programmable hardware accelerator is a SIMD processing accelerator optimized for camera image processing, as claimed in claim 14. The features of claim 14 are not disclosed or suggested in the art of record. Therefore, claim 14 is patentable and should be allowed.

Though dependent claims 15-18 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 14. However, to expedite prosecution at this time, no further comment will be made.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Accordingly, favorable reconsideration and allowance is respectfully requested. If there are any additional charges with respect to this Amendment or otherwise, please charge

deposit account 50-1924 for any fee deficiency. Should any unresolved issue remain, the examiner is invited to call applicants' attorney at the telephone number indicated below.

Respectfully submitted,



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Juan Juan (Reg. No. 60,564) Date

Customer No.: 29683
Harrington & Smith, PC
4 Research Drive
Shelton, CT 06484-6212
203-925-9400

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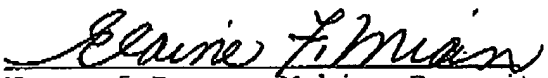

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